SAKSONOV, P.P.; ANT[illegible], V.V.; [illegible]OBROV, N.N.; [illegible] [illegible].A.,
[illegible], [illegible]; [illegible], P.I.; [illegible], [illegible];
NIKITIN, M.I.

Prospects for pharmacochemical protection [illegible]
injury in space flight. Pr[illegible]. Kosm. [illegible]

[illegible], V.[illegible].; MOROZOV, V.[illegible].

Injuring effect of 660 and [illegible] Mev. protons and the effectiveness of pharmacochemical protection. [illegible] kosm. biol. [illegible]. (MIRA [illegible])

RAZGOVOROV, B.L.; MOROZOV, V.S.; SHASHKOV, V.S.; ANTIPOV, V.V.; BORMOV, N.N.; KONNOVA, M.I.; L'VOVA, T.S.; SAKSONOV, P.P.

Effect of screening of separate parts of the animal body on the change in radiation reaction following action of gamma rays and high-energy protons. Probl. kosm. biol. 4:411-429 '65. (MIRA 18:9)

L 14290-66 EWT(m)/EPF(n)-2/FCC/T IJP(c) GG/RD

ACC NR: AT6003874 SOURCE CODE: UR/2865/65/004/000/0401/0410

AUTHOR: Shashkov, V. S.; Morozov, V. S.

ORG: none

TITLE: Injurious effect of 660- and 120-mev protons and the efficacy of pharmacological and chemical protection

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 401-410

TOPIC TAGS: proton, biologic radiation effect, radiation protection, mouse, RBE, cobalt, radioisotope, gamma irradiation, antiradiation drug

ABSTRACT: Efforts continue to partially estimate the biological effects of cosmic radiation by determining the RBE of high-energy protons. In this work male white mice weighing 18—21 g were subjected to Co^{60} gamma-rays (dose power, 264 rad/min) and 120- and 660-Mev protons (dose power, 500— 700 rad). The experiments were also designed to test chemical agents with a known radioprotective effect against x-rays and gamma-rays during proton irradiation. The animals were irradiated in plastic chambers

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in groups of 10—5 controls and 5 protected mice. The $LD_{50/30}$ for Co^{60} gamma-rays was calculated to be 600 rad, and for 660-Mev protons, 900 rad. Thus, the RBE of 660-Mev protons, according to the LD_{100} index, is 0.73. The comparative radioprotective effect of various substances was investigated in experiments, the results of which are shown in the following table.

Preparation	Co^{60} gamma-irradiation in dose of 850 r ($DL_{100/30}$)		Irradiation with 660-Mev protons in dose of 1170 ± 150 rad ($DL_{\sim 100}$)		Irradiation with 120-Mev protons in doses of 1200 ± L)) rad ($DL_{\sim 100}$)	
	Number of mice	Number alive by 30th day	Number of mice	Number alive by 30th day	Number of mice	Number alive by 30th day
Cystamine	40	22	80	41	40	24
AET	40	30	60	49	40	30
Serotonin	40	24	30	15	40	22
5-methoxytryptamine	40	28	30	21	40	28
Tryptamine	20	8	20	5	—	—
5-hydroxytryptophan	20	8	20	4	—	—
Control	40	0	160	3	60	2
Biological control	20	20	60	59	20	20

L 14290-66

ACC NR: AT6003874

Experimental results showed that the RBE of both 660- and 120-Mev protons for mice, as compared with electromagnetic radiation, does not exceed 1. Furthermore, the known radioprotective substances retain their effectiveness during irradiation with high-energy protons. The authors express thanks to Corresponding Member of the Academy of Sciences, SSSR, D. I. Blokhintsev, Director OIYaI. Further thanks is extended to Professor V. P. Dzhelepov, Director of the Laboratory of Nuclear Problems OIYaI, for making possible the research work with protons. Orig. art. has: 4 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 019 / OTH REF: 021

Card 3/3

L 14291-66 EWT(m)/ETC(F)/EPF(n)-2/EWG(m) GG/RD
ACC NR: AT6003875 SOURCE CODE: UR/2865/65/004/000/0411/0429

AUTHOR: Razgovorov, B. L.; Morozov, V. S.; Shashkov, V. S.; Antipov, V. V.; Dobrov, N. N.; Konnova, N. I.; L'vova, T. S.; Saksonov, P. P.

ORG: none

TITLE: Effect of screening individual parts of the body of animals on changes in radiation reaction on exposure to gamma rays and high-energy protons

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 411-429

TOPIC TAGS: radiation shielding, RBE, rat, animal physiology, gamma irradiation, cobalt, radioisotope, proton, irradiation, radiation biologic effect

ABSTRACT: Previous experiments showed that screening of individual organs or parts of the body during large doses of x-rays or gamma rays can change both the degree of radiation sickness and the number of deaths. In this work experiments were conducted to determine the effect of screening during irradiation of animals with gamma rays and 120-Mev protons. White rats of both sexes were used. Co^{60} gamma irradiation with dose power of 15.5 r/min was used. Proton irradiation was conducted through

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lead-shielded polyethylene blocks to lower the dose (dose power 60 ± 10 rad/min). During gamma irradiation, parts of the body were screened with steel plates (15 cm thick) of different widths. Plexiglas blocks 12—15 cm thick, which almost completely blocked the proton flux from the screened part, served as shields during proton irradiation. The biological effect of radiation under these conditions was determined by the survival rate of animals during a 30-day period after irradiation. Localized shielding during gamma irradiation of rats in a dose of 930 rad produced a definite increase in the survival rate, which was most effective during screening of the abdomen (80% survival rate as compared with 6% in the control). It was concluded that screening of the abdomen lowers the mortality index to the greatest degree and also is most effective in easing the course of radiation sickness and lessening the degree of leukopenia.

In a second series of experiments, the abdomens of rats were shielded with plexiglas blocks of different widths during irradiation with protons in the following dose ranges: 800— 1050 rad and 1100—1300 rad, and with gamma rays in doses of 930, 1100, and 1400 rad. It was found that screening the abdomen with a block 6 cm wide during proton irradiation with

800— 1050 rad increased the survival rate to 86.4% (as compared with 19.4% in the control). A high survival rate (96.7—100%) was also observed when the abdomen was screened with blocks of various widths during gamma irradiation (930 rad). Screening of the abdomen during proton irradiation also prevented the development of severe gastrointestinal disease in many cases and caused rats to lose less weight. Experimental animals recovered weight more quickly and even exceeded initial weight levels. Weight changes during gamma irradiation followed the same pattern.

Preliminary experiments were also conducted to show the effect of screening under the combined influence of protons and acceleration or vibration. Results showed that neither 30 min of acceleration (10g) nor 1 hr of vibration (700 cps, amplitude 0.005 min) altered the effectiveness of screening during proton irradiation (doses 750— 1100 rad and 1050— 1300 rad, respectively). Furthermore, it was found that the effectiveness of screening the abdomen increases with increased radiation dose. There is not yet any adequate explanation of the screening effect although it may be connected with retention by the organism of undamaged tissue sections.

L 14291-66

ACC NR: AT6003875

Orig. art. has: 5 figures and 4 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 011 / OTH REF: 010

QC

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L 14252-66 FSS-2/EWT(1)/FS(s)/EWP(m)/FS(v)-3/EEC(k)-2/FCC/EWA(h) SCTB TT/DD/RD/GW

ACC NR: AT6003911 SOURCE CODE: UR/2865/65/004/000/0701/0708

84
82

AUTHOR: Morosov, V. S.; Shashkov, V. S.; Davydov, B. I.; Antipov, V. V.; Saksonov, P. P.; Dobrov, N. N.

ORG: none

TITLE: Modeling of radiation conditions on a circumlunar trajectory during a solar flare

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 701-708

TOPIC TAGS: space flight simulation, mouse, radiation protection, lunar flight, radiation biologic effect, biologic acceleration effect, solar flare, gamma irradiation, lunar trajectory, radiation belt, antiradiation drug

ABSTRACT: The possibility of modeling the biological effect of radiation on a lunar flight which includes a short solar flare was demonstrated. White mice fed a special food concentration and kept in a biological unit were subjected to gamma-irradiation. Acute irradiation of other animals was conducted in plexiglas cages. In all cases the radiation dose was

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900--920 r. Dose power during acute irradiation was 18 r/min and during "solar flare" a maximum of 2.5 r/min (duration of flare, 24 hr). On the simulated lunar trajectory, the animals received a dose of 60--80 r while passing through the "radiation belts." Before the solar flare, the mice were injected with the following radioprotective agents: cystamine dihydrochloride, AET, and 5-methoxytryptamine hydrochloride.[4]

The experimental results showed that the effects of this pharmacological protection were slight as compared with unprotected animals. AET was the most effective radioprotective agent during both "lunar flight" and acute irradiation. On the lunar flight the animals were subjected to an acceleration of 20 g for 5 min before irradiation and at the end of the flight. It is suggested that the observed lowering of the biological effect of radiation during lunar flight (only 33% of the mice died, as against 90% after acute irradiation) is due not only to the lowered dose power, but also to acceleration. It is known that acceleration can alter the reactivity of an animal to subsequent irradiation. Previous experiments also suggest that preliminary irradiation of 60 r (in the radiation

L 14252-66
ACC NR: AT6003911

belts) reduced the effectiveness of the subsequent high dose during solar flare. It was concluded that modeling of radiation conditions for any spaceflight trajectory should be possible. Orig. art. has: 2 figures and 3 tables.
[ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 006

Card 3/3

L 23976-66 EWT(l)/EWT(m)/FCC/EWA(h) SCTB DD/RD/GW

ACC NR: AT6003847 SOURCE CODE: UR/2865/65/004/000/0119/0126

AUTHOR: Saksonov, P. P.; Antipov, V. V.; Dobrov, N. N.; Shashkov, V. S.; Kozlov, V. A.; Parshin, V. S.; Davydov, B. I.; Razgovorov, B. L.; Morozov, V. S.; Nikitin, M. D.

ORG: none

68

TITLE: Perspectives of pharmacochemical protection from radioactive damage during cosmic flights

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 119-126

TOPIC TAGS: astronaut, space medicine, radiation biologic effect, antiradiation drug, biologic acceleration effect, mouse, experiment animal, space physiology, closed ecology system, space flight

ABSTRACT: The authors consider cosmic radiation a real danger for astronauts, particularly during long flights. The work is a survey on existing radioprotectors and a general discussion of biologic conditions in cosmic flight, future research, and requirements for radioprotectors. The present chemical compounds, Mercamine HCL, its salicylate and disulfide, and AET appear sufficiently effective for clinical use against

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L 23976-66
ACC NR: AT6003847

X or gamma rays. Laboratory tests on mice showed that some compounds of the aminothiol series (cystamine, cysteamine, serotonin, AET) exerted significant protective effect in proton irradiation of 600 and 120 Mev. In the search for radioprotectors, other factors affecting the astronaut must also be taken into account, such as weightlessness, vibration, acceleration and changes in pressure. Tests on laboratory animals subjected to such conditions prior to irradiation showed no effect on radiation sickness, but vibration after irradiation was apt to prolong the sickness. Some of the radioprotectors tested in mice and dogs had an adverse effect on stability of the organism under vibration and acceleration. The authors call for studies to establish a stable ecologic system in the cabin which can accompany the astronaut on long trips, for models simulating cosmic flight conditions particularly in regard to radiation dose, and for radioprotective compounds to be compatible with all these conditions. Orig. art. has: none.

SUB CODE: 06, 22/ SUBM DATE: none/ ORIG REF: 040/ OTH REF: 028

Card 2/2 fv

GANZ, S.N.; MOROZOV, V.S.; VASHKEVICH, A.M.

Preparation of nitric acid of higher concentration in a closed circulation system. Zhur. prikl. khim. 38 no.5:961-966 My '65. (MIRA 18:11)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.

L 18003-66 EWT(1)/EWT(m)/ECC/EWA(h) SCTB DD/GW
ACC NR: AP6007752 SOURCE CODE: UR/0293/66/004/001/0172/0174

AUTHOR: Morozov, V. S.; Shashkov, V. S.; Davydov, B. I. 43

ORG: none

TITLE: Modeling the biological effect of a depth dose from a monoenergetic proton flux 19

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 1, 1966, 172-174

TOPIC TAGS: corpuscular radiation, radiation effect, RBE, high energy proton

ABSTRACT: Previous experiments suggested that physical protection (shielding) sometimes aggravates the effect of corpuscular radiation on living organisms. Unlike electromagnetic radiation, heavy particles create a higher ionization density along their path and at the end of their penetration (i.e., linear energy losses increase with decrease in particle velocity, and RBE likewise increases). Thus, corpuscular radiation can have a widely varying biological effect on different parts of an organism. Experiments were conducted to trace the change in biological effectiveness of particles during their passage through tissue until they were stopped. Mice were placed in rows perpendicular to the axis of a monochromatic beam of 120-Mev protons. Animals were irradiated with a dose of 1600 rad (dose power, 50 rad/min from a synchrocyclotron). One group of animals received an intraperitoneal injection of the

UDC: 629.198.621

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antiradiation agent AET (dose, 150 mg/kg) 15--20 min before irradiation. The survival

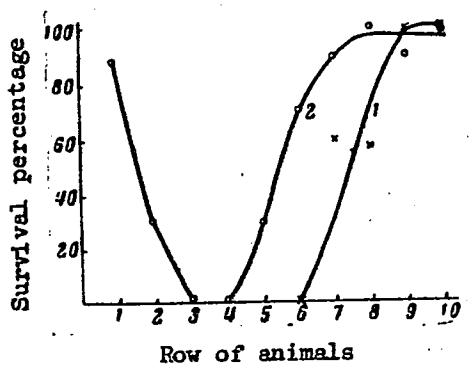


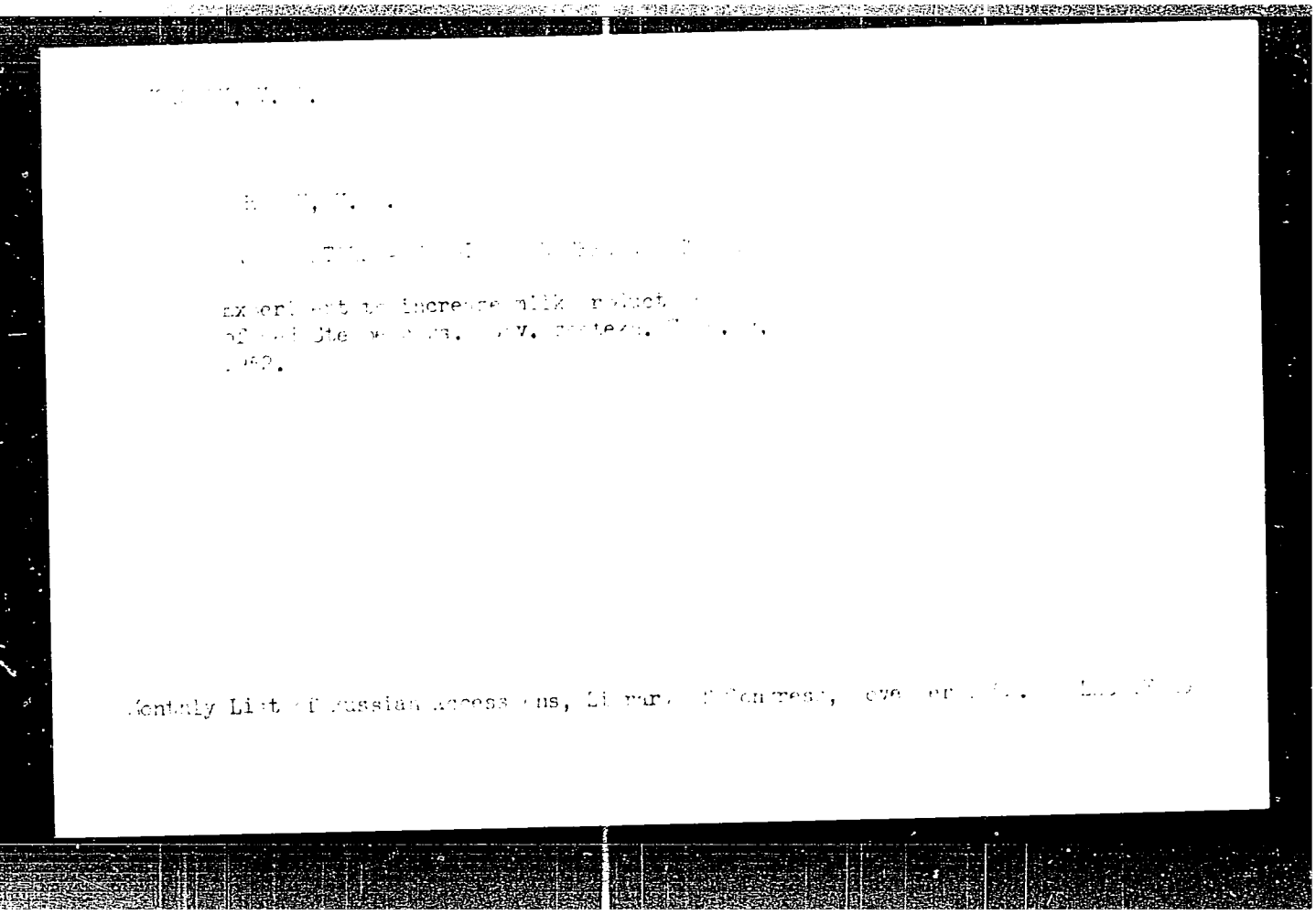
Fig. 1. Survival percentage of irradiated animals depending on the row occupied

1 - Control; 2 - AET.

percentage and average length of life of animals dying within 30 days were determined (see Fig. 1). It should be noted that AET had no protective effect in the 3rd—4th row. Orig. art. has: 3 figures and 1 table. [JS]

SUB CODE: 06/ SUBM DATE: 230ct65/ ORIG REF: 003/ OTH REF: 003/ ATD PRESS: 4213

Card 2/2 mjs



Q-2

USSR / Farm Animals, Cattle

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7156

Author : V. T. Morozov, M. V. Borisenko.
Inst :Kherson Agricultural Institute
Title : Efficient Feeding of Dairy Cows with Green Corn and Corn Silage

Orig Pub: Nauchn. zap. Khersonsk. s-kh. in-t, 1957, vyp. 6, 248-258

Abstract: The feeding of large amounts of corn green mass of and corn silage supplemented by small amounts of concentrates (which provided a content of 130 grams of digestible protein per one feed unit) resulted in an increase of the daily milk production of cows by one to two kilograms, an increase of the fat content in milk by 0.25-0.35 percent, and an increase of albumin by 0.18-0.38 percent.

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25(1) SOV/117-59-4-1 /19

AUTHORS: Morozov, V.I. and Barbar M.M., Engineers

TITLE: Cementation with a Special Paste

PERIODICAL: Mashinostroitel', 1959, Nr 4, p 32 (USSR)

ABSTRACT: The use of cementation paste is recommended for cementing machine parts, instead of the conventional solid carburizer. The article gives detailed recommendations on the preparation of a paste consisting of 35 weight parts of gas soot, 10 parts of soda ash, 5 parts of potassium ferricyanide, and 200 parts of waste spindle oil. The paste is put on the work in a 3-4 mm layer, and the work surface that is not to be treated is covered with a paste made of 60% fireclay and 40% chamot with a quantity of water glass needed to form the paste. The boxes with parts will be placed into a chamber furnace heated to 920-930°C. After cementation the parts will be cooled in air together with

Card 1/2

SOV/117-[illegible]

Cementation with a Special Paste

the box or hardened in the conventional way. [illegible] obtained surface hardness is R_c = 5[illegible] ÷ [illegible].

Card 2/2

S/129/63/000/004/013/014
A004/A127

AUTHOR: Morozov, V.T.

TITLE: High-efficiency method of steel cementation by means of a special paste

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 4, 1963, 54 - 55

TEXT: The author reports on a cementation paste composed of 85 parts by weight gas black, 10 parts by weight soda ash, 5 parts by weight potassium ferricyanide and 200 parts by weight spindle oil. The paste is manufactured in a paste mixer, but can also be made by hand if the required quantities are small. The author gives a description of the paste manufacture and points out that it is applied on to the component portion to be cemented in a layer of 3 - 4 mm. After hardening, the surface layer hardness is 50 - 60 HRC. The efficiency of cementation with the paste described exceeds that of cementation in a solid carburizing agent by a factor of 3 - 4.

Card 1/1

KOVAL', G.G., inzh.; KORSHUNOV, B.M.; MOROZOV, V.V., inzh.

Work practice of the Krivoy Rog (Donets Basin) Central Coal Preparation Plant. Obog. i brik.ugl. no.10:50-53 '59.
(MIRA 13:9)

(Donets Basin--Coal preparation)

STERMAN, L. S. (Cand Tech. Sci., MOROZOV, V. V. (Engr.) and KOVALEV, S. A. (Engr.)

"A Study of Heat Exchange during Boiling of Liquids in Tubes at Various Pressures up to 85 atms."

[illegible]

Moscow Division, Cent. Boiler Turbine Inst.

MOROZOV, V.V., inzh.

Dynamic forces and stresses in mine hoisting cables under the effect of sudden loads applied to their lower end. Nauch.dokl. vys.shkoly; gor.delo. no.4:147-154 '58. (MIRA 12:1)

1. Predstavlano kafedroy gornoy mekhaniki Khar'kovskogo gornogo instituta.
(Mine hoisting) (Wire rope) (Strains and stresses)

MOROZOV, V.V., inzh.

Dynamic forces and strains in mine hoisting ropes during sudden stoppages of the descending end in continuous hoisting. Izv. vys.ucheb.zav.; gor.zhur. no.5:76-86 '59. (MIRA 13:5)

1. Khar'kovskiy gornyy institut. Rekomendovana kafedroy gornoy mekhaniki.
(Mine hoisting) (Wire rope)

USSR/Farm Animals. General Problems. Q-1

Abs Journ: Ref Zhur - Biol., No. 22, 1958, No 1142

Author : Orozov, V.F.

Inst : Odes a Agricultural Institute

Title : The Form and Lobular Structure of Lungs in Domestic Sheep and Goats.

Orig Pub: Tr. Odessk. S.-Kh. In-ta, 1957, 12, 91-102

Abstract: Investigations carried out on the lungs (L) of 441 adult sheep, 105 goats, and 17 Cvis amon (Central-Asian arkhar), 1 urpal, 1 Siberian capricorn goat, 1 Capra falconeri goat, 1 Dagestanian (Caucasian) goat (Capra cylindricornis), and 1 hybrid bred from a female goat and a Capra falconeri male goat, proved that sheep and goats have 3 lobes in

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USSR/Farm Animals. General Problems. Q-1

Abs Jour: Ref Zhur - Biol., No. 22, 1958, 101142

their left lung and 4 lobes in their right lung (the right apical lobe being a double one). In terms of their general form and lobe structre, L of sheep and goats are very similar to L of cattle. Nevertheless, the author notes some structural discrepancies. Sheep and goats display 7 variants of the lobular scission of L. A parenchymatous symphysis in the area of the dull end at about 1/3 of their height is seen in 50.8 percent of sheep and in 29.5 percent of goat L, and they are relatively stable (normal form). L in sheep and goats are asymmetric in terms of form and mass. In sheep, the asymmetric weight coefficient amounts to 1:1.35 (in rams, to 1:1.36), in female goats it equals 1:1.40 (in male goats, 1:1.48). The right L is always elongated. In shpep, the elongation index amounts to 0.59 and 0.52, and

Card 2/3

MOROZOV, V.V., kand. tekhn. nauk

Mutual transformation of tersional and longitudinal vibrations in wire ropes. Izv. vys. ucheb. zav.; gor. zhur. 6 no.6:112-117 '63. (MIRA 16:8)

1. Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki. Rekomendovana kafedroy gornoy mekhaniki.

(Wire rope—Virbation)

MOROZOV, V.V., kand.tekhn.nauk

Preliminary stretching of a mine hoisting rope before removing a load from a fixed base. Izv. vys. ucheb. zav.; gor. zhur. 6 no.7:114-118 '63. (MIRA 16:9)

1. Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki. Rekomendovana kafedroy gornoy mekhaniki Khar'kovskogo instituta gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki.

(Wire rope)

PETRUSHIN, Ivan Petrovich; KOROZOV, V.V., otv. red.; BATRAKOVA, T.A., red.

[Fundamental principles of the operation of the technical means of long-distance communication] Osnovnye printsipy ekspluatatsii tekhnicheskikh sredstv mezhdugorodnoi sviazi. Moskva, Sviaz', 1964. 39 p. (MIRA 18:4)

KOROLOV, V.V.

Opredeleniye sistem i primitivnosti konechnykh nepovorotnykh grupp. Kazan' Uchen. zap. un-ta, 98:6 (1938), 269-276.
O primitivnykh gruppakh v chetyrekh peremennykh. Kazan', TRUDY in-ta mekh. i vych. mat. stroit., 5 (1938), 3-30.
O primitivnykh gruppakh. Mate. sb., 5 (47), (1939), 355-390
O primitivnykh gruppakh. v trekh peremennykh. sb. pamyati akad. Grave (1940), 193-212.
O nil' potentnom elemente v poluprostoy algebre. DAN, 36 (1942), 91-94.
O tsentralizatore poluprostoy podalgebry v poluprostoy algebre lie. DAN, 36 (1942), 257-277.
O nepoluprostykh maksimal'nykh podgruppakh prostykh grupp. Kazan', Dissertatsiya (1943)

30: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.I.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

MOROZOV, V. V.

Morozov, V. V. On the theory of Lie algebras. Uspehi Matem. Nauk (N.S.) 4, no. 3(31), 181 (1949). (Russian)

The author announces a proof of Ado's theorem that a Lie algebra over a field of characteristic zero has a faithful representation; his proof uses the Birkhoff-Witt universal algebra to handle the solvable case, and Levi's theorem to pass to the general case.

I. Kaplansky (Chicago, Ill.).

Source: Mathematical Reviews, Vol 11 No.3

MOROZOV, V. V.

Mathematical Reviews
Vol. 14 No. 9
October 1953
History

Morozov, V. V. On the algebraic manuscripts of N. I. Lobačevskiĭ. [illegible]

MOROZOV, V. V.

Morozov, V. V. On the equation of fifth degree. Uč. Zap. Kazan. Univ. 115 (1955), no. 14, 29–39. (Russian)

This work establishes an effective formula for transforming the general equation of the fifth degree into the one-parametric form of Klein and observing the behavior of the critical manifold [of multiple roots] under this transformation. (Author's Summary.) *Harvey Cohn.*

MOROZOV, V.V.

Kim Sen En; and Morozov, V. V. On imprimitive groups of the three-dimensional complex space. Uč. Zap. Kazan. Univ. 115 (1955), no. 14, 69–85. (Russian)

In elaboration, extension and improvement of results announced earlier by the first author [Dokl. Akad. Nauk SSSR (N.S.) 99 (1954), 205–207; MR 16, 567] the authors derive the structure of the various possible imprimitive groups of transformations in complex three space in the special case in which the corresponding abstract group is not solvable. In the more complicated solvable case they confine their attention to the intransitive groups and to one class of transitive groups. They also rederive the known results for two space. All considerations are local.

G. W. Mackey (Cambridge, Mass.).

1-F\W

Math 4

Call Nr: AF 11[illegible]

Transactions of the Third All-union Mathematical Congress (Cont., Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Lyapin, Ye. S. (Leningrad). On Divisibility in Semi-groups.

Makharadze, L. M. (Moscow). Locally Nilpotent Ideals in Topological Rings.

Morozov, V. V. (Kazan'). Proofs of the Theorem of Regularity

Mention is made of Karpelevich.

Mochul'skiy, Ye. N. (Moscow). Isomorphisms of Direct Decompositions.

There are 5 references, 3 of which are USSR, and 2 English.

Pekelis, A. S. (Sverdlovsk). The Lattice Isomorphisms of Soluble groups.

There is 1 English reference.
Card 10/80

MOROZOV, V.V.

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/2 PG - 882
AUTHOR MOROZOV V.V.
TITLE Proof of a theorem of regularity.
PERIODICAL Uspechi mat.Nauk 11, 5, 191-194 (1956)
reviewed 6/1957

A subalgebra L_1 of a semisimple Lie algebra L is called regular if L_1 has a basis consisting of elements of H and of root vectors of L relative to H for some Cartan subalgebra H of L. The author gives a simple proof of the following theorem, first established by him in his thesis "On non-semisimple maximal subgroups of simple groups",(Kazan 1943) : Every non-semisimple maximal subalgebra of a semisimple Lie algebra L over the field of complex numbers is regular. For the proof the following theorem is used, the proof of which is sketched (cf. Morozov, Doklady Akad.Nauk 36, 191-194 (1942)): If G is a soluble subalgebra of L, and $\widetilde{H}$ a commutative subalgebra of G, consisting of semisimple elements (relative to ad L; cf. Chevalley, Théorie des groupes de Lie II, Paris 1951, ch.I, § 8), then L has a Cartan subalgebra H containing $\widetilde{H}$ and an element h_o such that every element of G has the form $x = h + \sum a_\alpha e_\alpha$ where $h \in H$ and $a_\alpha \neq 0$ only for α with $(h_o, h_\alpha) > 0$.

AUTHOR: Morozov, V.V. SOV/140-58-4-18/30

TITLE: Classification of Nilpotent Lie Algebras of Sixth Order (Klassifikatsiya nilpotentnykh algebr Li shestogo poryadka)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 4, pp 161-171 (USSR)

ABSTRACT: The author gives a classification of the representations of Lie algebras by nilpotent matrices of sixth order, wherefrom there follows the classification of nilpotent Lie algebras of sixth order over an arbitrary field of the characteristic 0. Then there follows a comparison with the table of structures of nilpotent algebras of sixth order of Umlauf, the classification of which is given completely
There is 1 German reference

ASSOCIATION: Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina (Kazan' State University imeni V.I.Ul'yanov-Lenin)

SUBMITTED: March 31, 1958

Card 1/1

IVANOV, S.Z.; DANILEVSKIY, V.V., akademik, red.; MOROZOV, V.V., red.; LIMANOVA, M.I., tekhn.red.

[Anastasii Egorovich Zaikevich; a historicobiographical sketch] Anastasii Egorovich Zaikevich; istoriko-biograficheskii ocherk. Pod red. V.V.Danilevskogo. Khar'kov, Khar'kovskoe knizhnoe izd-vo, 1959. 148 p. (MIRA 13:1)

1. AN USSR (for Danilevskiy).
(Zaikevich, Anastasii Egorovich, 1844-1931)

16(1) 05262

AUTHOR: Morozov, V.V. SOV/140-59-5-18/25

TITLE: On a Problem of N.P.Yerugin

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 5, pp 171-173 (USSR)

ABSTRACT: N.P.Yerugin [Ref 1] has given the following problem: Given two constant quadratic matrices U_1 and U_2 of the order n. When the solution of

(1) $$\frac{dY}{dx} = Y(U_1\varphi_1(x) + U_2\varphi_2(x))$$

for arbitrary φ_1 and φ_2 can be represented in the form

(2) $$Y = \exp S \cdot \exp U_2 L ,$$

where $L = \int_b^x \varphi_2(x)dx$ and S is a matrix commutating with $\frac{dS}{dx}$?

The author shows that the necessary and sufficient conditions for the desired representability are:

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SOV/140-59-5-18/22

On a Problem of N.P.Yerugin

(3) $U_1 \circ F_S = 0 \quad (S = 1,2,\ldots)$,

where $F_0 = U_1$, $F_S = (U_2 \circ (U_2 \circ \ldots \circ (U_2 \circ U_1) \ldots))$ (s parentheses)

and $U \circ V = UV - VU$ denotes the Lie product.

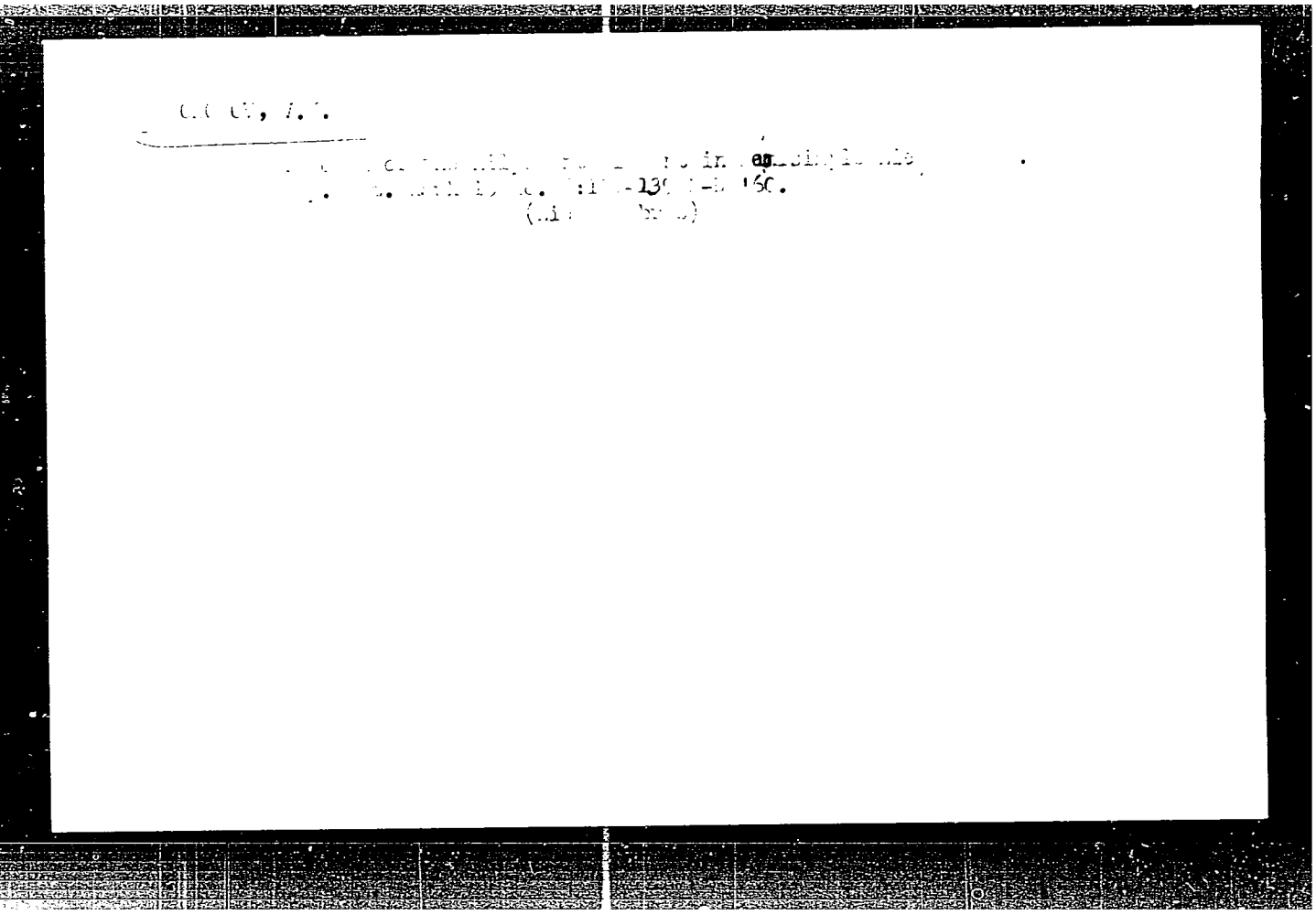
The author mentions L.M.Shifner.

There is 1 Soviet reference.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina
(Kazan' State University imeni V.I.Ul'yanov-Lenin)

SUBMITTED: February 23, 1959

Card 2/2



L 10646-66 FBD/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/T/EWP(k)/EWA(m)-2/EWA(h) SCTB/IJP(c)
ACC NR: AP6002662 WG/WH SOURCE CODE: UR/0386/65/002/012/0562/0566

AUTHOR: Mash, D. I.; Morozov, V. V.; Starunov, V. S.; Fabelinskiy, I. L.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

13
B

TITLE: Stimulated Brillouin scattering in gas

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 12, 1965, 562-566, and insert facing page 584

TOPIC TAGS: laser, gaseous laser, nonlinear optics, Brillouin scattering

ABSTRACT: The authors report observing stimulated Brillouin scattering in hydrogen at a pressure of 95 atm, in nitrogen at 100 and 125 atm, and in oxygen at 75, 100, and 150 atm using an experimental setup described in Zhurnal eksperimental'noy i teoreticheskoy fiziki, Pis'ma v redaktsiyu, v. 2, no. 1, 1965, p. 41. The focused output of the Q-switched ruby laser was 250 Mw. Four Stokes components were observed in nitrogen, four Stokes components and one faint anti-Stokes component were observed in oxygen, and two Stokes components were observed in hydrogen. The hypersound velocities determined from the experimental data are listed in Table 1, together with the adiabatic and isothermal velocities and certain parameters of the medium and experimental conditions. Stimulated Brillouin scattering was not observed in

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ACC NR: AP6002662

Table 1.

	P, atm	n	$f \pm 10^{-9}$,	$\Lambda^{*} \cdot 10^{5}$, cm	$\alpha\Lambda^{**}$	Experimental data		Vadiaba tic m/sec	v isothermal m/sec
						$\Delta v \cdot 10^{2}$, cm	Hypersound velocity (m/sec)		
N_2	125	1.035	0.84	3.3	0.06	2.8±0.1	280±10	352	257
O_2	150	1.038	0.99	3.3	0.06	3.3±0.3	330±30	331	280
H_2	95	1.012	3.3	3.4	0.14	11±1	1130±100	1334	1127
He	110	1.005	2.6	3.5	1.7	-	-	1008	783

*Λ is the wavelength of hypersound
**α is the amplitude coefficient for sound absorption

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L 10646-66

ACC NR: AP6002662

helium even at a pressure of 140 atm. The experimental data are interpreted in terms of the classical theory developed earlier by one of the authors (Fabelinskiy). Orig. art. has: 1 figure and 1 table. [CS]

SUB CODE: 20 / SUBM DATE: 09Nov65/ ORIG REF: 004/ OTH REF: 003/
ATD PRESS: 4169

HW

Card 3/3

L 24204-66 EWT(1)/EWP(e)/EWT(m)/T/EWP(t) IJP(c) JD/WH

ACC NR: AP6014615 SOURCE CODE: UR/0386/66/003/009/0378/0382

AUTHOR: Krivokhizha, S. V.; Mash, D. I.; Morozov, V. V.; Starunov, V. S.; Fabelinskiy, I. L.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Induced Mandel'shtam-Brillouin scattering in single-crystal quartz at temperatures 2.1--300K

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 9, 1966, 378-382

TOPIC TAGS: quartz, single crystal, light scattering, laser application, line shift

ABSTRACT: The following effects were observed in induced Mandel'shtem-Brillouin scattering (IMBS) in single-crystal quartz: a strong increase in the shift of the Stokes component, due to the quasilongitudinal hypersonic wave, as the temperature was lowered from 80 to 2.1K; occurrence of a Stokes component of IMBS due to the quasitransverse wave at 80K and a difference in the character of the damage to the single crystal in the focused laser beams at different temperatures and for practically constant light-pulse power. The investigation was made with a previously-described installation (Pis'ma ZhETF v. 2, 41, 1965). The giant light pulse from a ruby laser, of ~250 Mw power, was focused onto the interior of the crystal sample, which was either at room temperature or placed in a cryostat filled with liquid helium or liquid nitrogen. All crystal samples were cut from a single block of

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Brazilian quartz. The frequency shifts $\Delta\nu$ of the Stokes components are tabulated. It is shown that $\Delta\nu$ doubles in the temperature interval 80--4K and continues to increase with decreasing temperature. To explain the observed large increase in the frequency it must be assumed that under the conditions of the experiment the refractive index and the speed of the hypersound change noticeably under the influence of the strong electric field of the light wave at low temperature. An analysis shows that the influence of the electric field on the refractive index and the speed of the hypersound are apparently not the only causes of the observed appreciably increase of $\Delta\nu$ at low temperature. The observed strong difference in the outward appearance of the damage in the single crystal of quartz at different temperatures is attributed to the fact that at 80K the absorption of the hypersound is somewhat smaller than at 300K, and this decrease is apprently sufficient to produce under certain conditions IMBS without damaging the crystal. When the temperature is lowered to 4.2K, the absorption coefficient becomes even smaller, and usually no damage occurs. If damage is still observed in this case, it can be attributed to the strong narrowing of the light channel, and consequently the increase in the intensity of the light and hypersound. The authors thank L. V. Keldysh and Yu. P. Rayzer for useful remarks made during the discussion of the results, and to O. B. Vol'skaya, M. A. Vysotskaya, and V. P. Zaytsev for help with the work. Orig. art. has: 1 formula and 1 table. [02]

SUB CODE: 20/ SUBM DATE: 19Mar66/ ORIG REF: 007/ OTH REF: 005/ ATD PRESS: 4245

L 6357-66 EWT(1)/EWT(m)/EWP(i)/EWP(b)/T/EWP(a) IJP(c) WH

ACC NR: AP5026105 SOURCE CODE: UR/0386/65/002/005/0246/0250

AUTHOR: Mash, D. I.; Morozov, V. V.; Starunov, V. S.; Tiganov, Ye. V.; Fabelinskiy, I. L.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Stimulated Brillouin scattering in solid amorphous bodies and liquids

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 5, 1965, 246-250

TOPIC TAGS: Brillouin scattering, stimulated scattering, stimulated Brillouin scattering, laser, laser effect, nonlinear effect, nonlinear optics

ABSTRACT: Stimulated Brillouin scattering was observed in three kinds of optical glasses, fused quartz, and seven different liquids excited by a giant pulse from a ~100 Mw ruby laser using a setup described previously (Mash, D. I., et al. Pisma ZhETF, 2, 41, 1965). Table 1 lists some of the experimental data on the Brillouin shifts $\Delta\nu$, the hypersonic acoustic velocity v calculated from the present experimental data on $\Delta\nu$, v determined from ordinary (spontaneous) Brillouin shifts, and v obtained from direct hypersonic measurements. The systematic differences between the hypersonic acoustic velocities calculated from the spontaneous Brillouin shifts and those obtained from stimulated Brillouin scattering were within the limits of

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ACC NR: AP5026105

Table 1. Hypersonic acoustic velocities

Material	Stimulated Br. Scattering		Spontaneous Br. Scatt.	Hypersound Measurements
	$\Delta\nu$, cm^{-1}	v, m/sec	v, m/sec	v, m/sec
Fused quarts	0.8II±0.004	5804±30	5990 5840	5968
Crown glass	0.856±0.005	5906±40	-	-
Benzene	0.206±0.002	I434±I5	I47I±	I324
Nitrobenzene	0.232±0.002	I546±I5	-	I473
Carbon disulfide	0.I8I±0.002	II62±I5	I265±22	II58
	0.I92±0.002	I232±I5		
Acetic acid	0.I45±0.002	II05±20	II40±35	II44
Salol 20C	0.232±0.002	I544±I5	-	-
180C	0.I06±0.002	740±20		

*The upper value is given for the case when ~10 components were observed; the lower value, when 2 components were observed.

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experimental error for all materials tested except carbon disulfide. The hypersonic velocity in carbon disulfide decreased with an increasing number of Brillouin components and increased with an increasing power of the pulses. The dependence of velocity (or $\Delta\nu$) on the number of components was attributed to heating of the scattering medium due to absorption of hypersound. It is possible that a small decrease in hypersonic velocity also occurred in other materials. Such a decrease would limit the accuracy with which the hypersonic velocity could be determined by means of stimulated Brillouin scattering. The ~5% dispersion observed in nitrobenzene at 20C made it possible to evaluate its main relaxation parameters. Orig. art. has: 2 figures and 1 table. [CS]

SUB CODE: OP/ SUBM DATE: 19Jul65/ ORIG REF: 004/ OTH REF: 010/ ATD PRESS: 4141

Card 3/3 fds

MOROZOV, V.V.

Lymphogranulomatosis of the spinal cord. Vop.neirokhir. 19 no.3: 56-57 My-Je '55. (MLRA 8:6)

1. Iz neyrokhirurgicheskoy kliniki Krymskogo meditsinskogo instituta imeni I.V.Stalina.

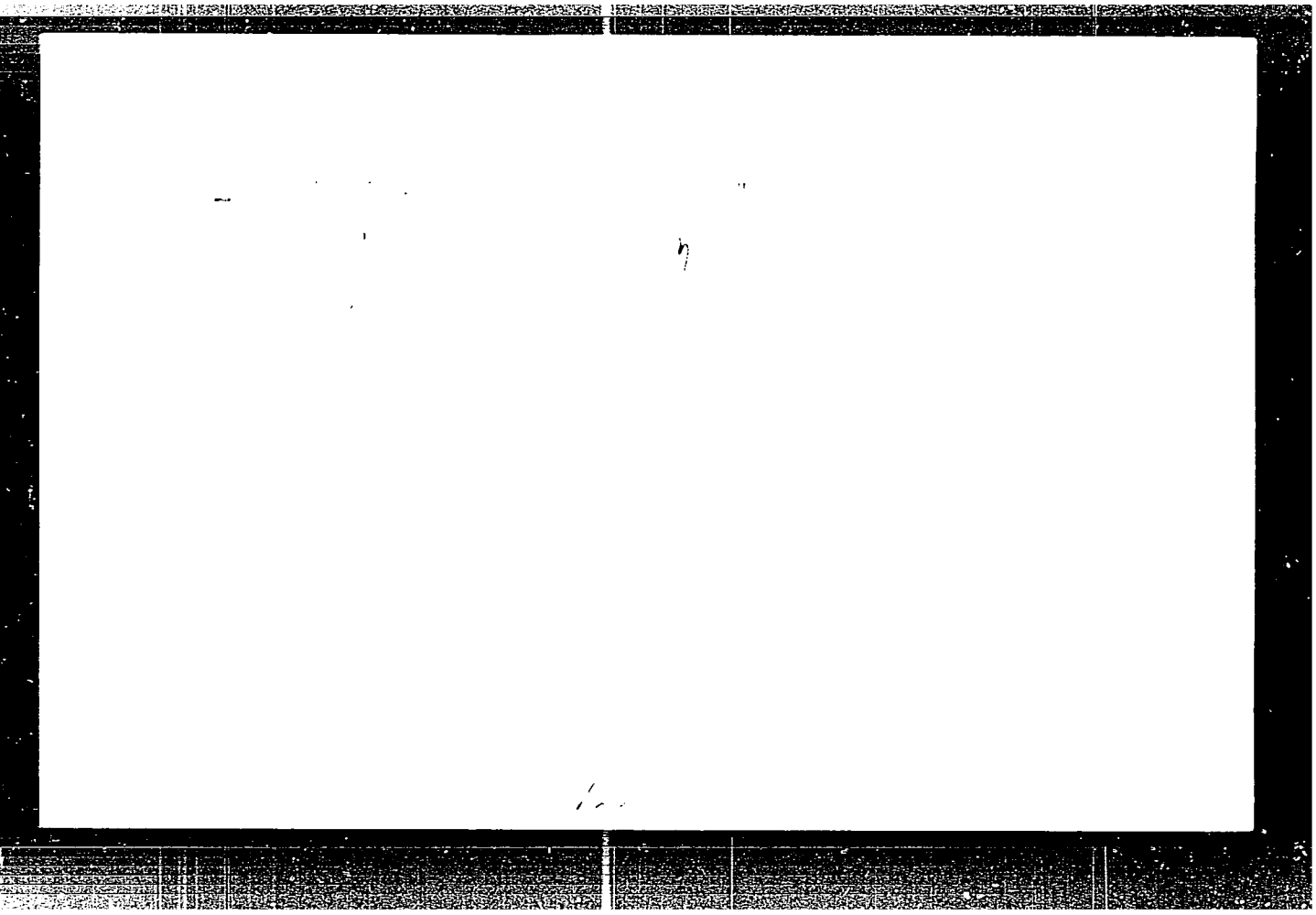
(HODGKIN'S DISEASE, spinal cord)
(SPINAL CORD, neoplasms, Hodgkin's dis.)

MOROZOV, V. V.

ARESTENKO, Yu.N.; MOROZOV, V.V.; LESNITSKAYA, V.L., professor

Experimental cerebral edema. Vop. neirokhir. 20 no.6:30-35 N-D '56. (MLRA 10:2)

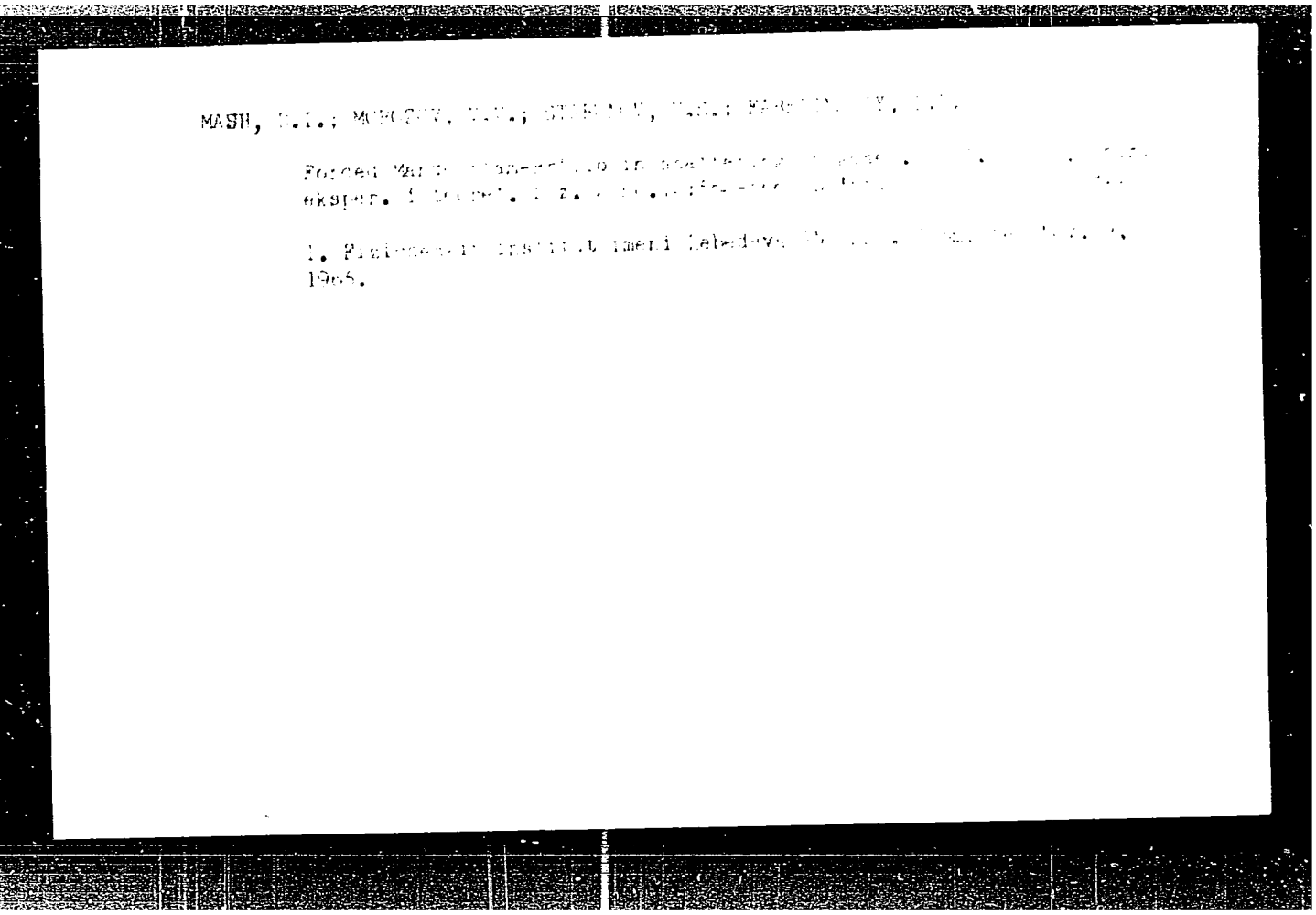
1. Iz neyrokhirurgicheskoy kliniki Krymskogo meditsinskogo instituta imeni I. V. Stalina.
(BRAIN DISEASES, experimental,
edema (Rus))



MASH, D.I.; MOROZOV, V.V.; STARTSNOV, V.S.; TIGANOV, Ye.V.; [illegible]

Induced Mandelstam-Brillouin scattering in solid and liquid bodies and in fluids. Pis'. v red. Zhur. eksper. i teor. fiz. 2 no.5:246-250 S '65. (MIRA [illegible])

1. Fizicheskiy institut imeni Lebedeva AN SSSR. Submitted July 19, 1965.



MASH, S.I.; [illegible]

[illegible]

1. [illegible]
1965.

MOROZOV, V.V.

Redesigned fine [illegible]. [illegible]

1. Glavnyy inzh. Belgorodskoy fabriki [illegible] izdeliy.

MOROZOV, V.Ye., inzh.

First reversible four-cycle marine engines. Sudostroenie 24 no.12:64-65 D '58. (MIRA 12:2)
(Marine engines)

MOROZOV, Ya.

Using the extensive experience. Za bezop. dvizh. no.1:12-14 Je '58. (MIRA 11:12)

1. Inspektor bezopasnosti dvizheniya avtobazy No. 1 Mosstroytransa.
(Traffic safety--Study and teaching)

MOROZOV, Ya.I.

At the threshold of a new life. Avtom., telem. i sviaz' no.11:39-40 N '57. (MLRA 10:11)

1. Starshiy dezhurnyy po svyazi Upravleniya Oktyabr'skoy dorogi.
(Russia--Revolution, 1917-1921--Personal narratives)

KOLESNIKOV, I.M.; PANCHENKOV, G.M.; MOROZOV, Ye.A.; ANISIMOVA, N.N.

Kinetics of the alkylation of benzene with ethylene on an aluminosilicate catalyst in the gas phase with the addition of gaseous hydrogen chloride. Izv.vys.ucheb.zav.; neft' i gaz 4 no.11:85-90 '61. (MIRA 15:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika I.M.Gubkina.

DEMIN,A.V.; YELISEYEV,N.N.; KREYNIN,G.V.; MOROZOV,Ye.A.; TSUKERNIK,L.M.; CHERKASSKIY,A.Kh.; KOBYLYANOV,L.M., redaktor; BALLOD,A.I.,tekh. red.

[Steam power plant LPU-1] Parosilovaia ustanovka LPU-1. Moskva, Gos.izd-vo selkhoz. lit-ry, 1955. 246 p. (MLRA 9:2)
(Steam power plants) (Rural electrification)

MOROZOV, Ye.F.; SAVINYKH, A.G.

Hydrolytic apparatus with a 30-cubic-meter capacity. Gidroliz.i lesokhim.prom. 9 no.5:21 '56. (MLRA 9:11)

1. Khakasskiy gidroliznyy zavod.
(Hydrolysis)

LUR'YE, M.L.; CHEREMUKHIN, I.K.; MOROZOV, Ye.F.

Work practice of the Khakass Hydrolysis Plant. Gidroliz. i lesokhim. prom. 9 no.8:23 '56. (MLRA 10:2)

1. Giprogidroliz (for Lur'ye) 2. Khakasskiy gidroliznyy zavod (for Cheremukhin and Morozov).
(Wood-using industries) (Alcohol) (Hydrolysis)

AKKERMAN, I.Z.; ZAYTSEV, B.M.; CHEREMUKHIN, I.K.; MOROZOV, Ya.F.

Designed capacity of a vacuum refrigerating installation.
Gidroliz. i lesokhim. prom. 9 no.8:27 '56. (MLRA 10:2)

(Refrigeration and refrigerating machinery)

MOROZOV, Ye.F.

Self-cleaning filters for hydrolyzers. Gidroliz.i lesokhim.prom. 12 no.3:18 '59. (MIRA 12:6)

1. Khabarskiy gidrolizmyy zavod.
(Filters and filtration) (Hydrolysis)

MOROZOV, Ye.F.; TYUTYUKOV, N.A.

New sawdust unloader. Gidroliz. i lesokhim.prom. 13 no.7:24-25 '60.
(MIRA 13:10)

1. Khakasskiy gidroliznyy zavod.
(Khakasskiy--Loading and unloading)

MOROZOV, Ye. F.

Improve the designing in the hydrolysis industry. Gidroliz. i lesokhim.prom. 14 no.2:25-26 '61. (MIRA 14:3)

1. Glavnyy inzh. Khakasskogo gidroliznogo zavoda.
(Hydrolysis) (Wood--Chemistry)

MOROZOV, Ye.F.; IVANOVA, M.A.

Furfural-containing semiproducts of hydrolysis. Gidroliz. i lesokhim. prom. 16 no.1:29 '63. (MIRA 16:2)

1. Khakasskiy gidroliznyy zavod.
(Hydrolysis) (Furaldehyde)

DUBENYUK, V.M., gornyy inzh.; TKACHENKO, A.P., gornyy inzh.;
DROBOT, B.Ya., gornyy inzh.; NEMCHENKO, A.A., gornyy inzh.;
MOROZOV, Ye.G., gornyy inzh.

Effect of large-scale blasting on the atmospheric conditions in open pits. Sbor. nauch. trud. KGRI no.13:74-76 '62.
(MIRA 16:8)

(Krivoy Rog Basin--Blasting)

DROBOT, B.Ya., gornyy inzh.; [illegible], V.M., gornyy inzh.;
MOROZOV, Ye.G., gornyy inzh.; [illegible], gornyy inzh.

Gas content in the atmosphere of strip mines after large-scale blasting. Sbor. nauch. trud. KGRI no.[illegible] 93 '63.
(MIRA 17:8)

DROBOT, B.Ya., gornyy inzh., MOROZOV, Ye.C., gornyy inzh.;
DUBENYUK, V.M., gornyy inzh.

Prognosis of the condition of strip mine atmosphere. Sbor. nauch. trud. KGRI no.15:93-105 '63. (MIRA 17:8)

MOROZOV, E.I.

The cobalt-60 diffusion in cobalt ferrites. A. I. Borisenko and [redacted] Morozov. *Doklady Akad. Nauk S.S.S.R.* 105, [illegible] (1955). The diffusion coeff. in the ceramic-type materials, Co ferrites, was studied; the effect of a uniform phase compn. on the diffusion of one of its components. The samples were synthesized in the solid phase by heating the required proportions of Fe_2O_3 and CoO to produce $3CoO.2Fe_2O_3$, $CaO.Fe_2O_3$, $CoO.2Fe_2O_3$, $2CaO.3Fe_2O_3$, and $CoO.3Fe_2O_3$ for 4 hrs. to 1200°, grinding to −0.25% on a 300-in.-mesh screen, compressing into 15-mm. disks, and reheating for 3 hrs. at 1380°. A thin layer of Co^{60} was applied by coating the polished disks with a cellulose acetate soln. contg. Co^{60}, and the Co distribution uniformity was tested radiographically. The disks were then heated to 1200–1350° for 10–15 hrs. A max. diffusion activation energy was found in $CoO.Fe_2O_3$ which contained the least amt. of voids. The diffusion activation energy dropped sharply in ferrites with Fe_2O_3:CoO > 1.

W. M. Sternberg

KONOVALOV, P.F., kandidat tekhnicheskikh nauk; MOROZOV, Ye. I., inzhener.

Studying the kinetics of cement hydration with the help of radioactive isotopes. TSement 22 no.5:4-6 S-O '56. (MLRA 10:1)
(Cement) (Hydration) (Radioisotopes--Industrial applications)

MOROZOV, Ye.I., inzhener.

Studying the interaction of calcium aluminates with a solution of lime. TSement 23 no.3:19-21 My-Je '57. (MLRA 10:7)
(Chemical reactions) (Calcium--Isotopes)

AUTHOR: Mchedov, Yu. I.

TITLE: A Method of Determining the Composition of Complex Compounds Which Form in the Hydration of Calcium Aluminates (Metod opredeleniya sostava kompleksnykh soyedineniy, obrazuyushchikhsya pri gidratatsii aluminatov kal'tsiya)

PERIODICAL: Tsement, 1958, Nr 3, pp 24-26 (USSR)

ABSTRACT: The determination of the chemical composition of new formations at the very beginning of a reaction is possible by applying radioactive isotopes. This method can also be used for investigating the formation of compounds with calcium chloride. For this purpose, a radioactive isotope of calcium Ca^{45} is inserted into the initial anhydrous aluminate, whereupon the changes of the activity and chemical composition of the liquid stage are examined. Previously a relation has to be found between the specific activity developing in the solution, which results from the dissolution through the change of the content of Ca^{45} in the solid, and the relation of $CaCl_2$ to CaO in the new formation. By determining the specific activity of the solution and decrease of the calcium concentration in it, the new

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A Method of Determining the Composition of Complex Compounds Formed in the Hydration of Calcium Aluminates

values are entered in a diagram, which demonstrates the composition of the new formation.
There are 2 tables, 1 graph and 2 references, 1 of which is Soviet and 1 Canadian.

1. Complex compound--Properties--Determination 2. Radio-isotopes--Applications

Card 2/2

AUTHORS: Filintsev, G. P., Moronov, Ye. I. [illegible]-58-[illegible]-10/[illegible]

TITLE: Investigating the Interaction Between Glaze and Body by Means of Radioactive Isotopes (Issledovaniye vzaimodeystviya glazuri i chereposhka pri pomoshchi radioaktivnykh izotopov)

PERIODICAL: Steklo i Keramika, 1958, Nr 5, pp 34 - 39 (USSR)

ABSTRACT: The aim of this investigation was [illegible] to determine how far the radioactive isotopes Fe^{59} and Ca^{45}, applied to the glaze surface before burning, penetrate into the body of the sample during the firing process. The activity of the isotope Ca^{45} was measured in a type-B apparatus, the block B/S of which was connected with a vertical lead counter IFKh-7. The activity of the isotope Fe^{59} was measured by means of the counter tube MS-7. The experiments were carried out with three kinds of [illegible] porcelain, faience and semiporcelain; their results in percentage can be seen from table 1. Furthermore, the preparation of the samples is described. The distribution of Fe^{59} in the porcelain sample is shown on table 2. Similar tables were [illegible]

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72-58-[illegible]

Investigating the Interaction between Glaze and Body by Means of Radioactive Isotopes

[illegible]bution of Fe^{59} and Ca^{45} for all [illegible] [illegible]. The [illegible] representation for the penetration of Fe^{59} is [illegible] in figure 1 and of Ca^{45} in figure 2. From the curves [illegible] seen that the iron and calcium oxides marked by isotopes entered intensely into porcelain samples, less intensely into semiporcelain samples and even less into faience samples. This can be explained by the fact that in porcelain and semiporcelain liquid glasslike phases form during firing at high temperatures, which are favorable for diffusion. The first experiments were not yet sufficient to explain all processes. There are 2 figures, 2 tables.

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Card 2/2

1. Ceramic coatings--Test results 2. Iron isotopes (Radioactive)--Applications 3. Calcium isotopes (Radioactive)--Applications

19(6)

AUTHORS: Konovalov, P.F. and Morozov, Yu.I.

TITLE: The Composition of Products Resulting From the Hydration of Aluminates in a Solution of CaCl2

PERIODICAL: Tsement, 1959, Nr. [illegible]

ABSTRACT: The authors state that the solidification of cement is the result of various chemical reactions. Simultaneously occurring hydration, hydrolysis, compounding process and others, in their assembly, comprise the survey of the hardening process. The hydrochloric aluminates, resulting from the reaction of the tricalcium aluminate with a solution of $CaCl_2$, have been studied by many investigators. The composition of the cement clinker may contain aluminates of subbasic properties, such as $12CaO \cdot 7Al_2O_3$, $CaO \cdot Al_2O_3$, $CaO \cdot 2Al_2O_3$, producing combined compounds with calcium chloride. Tricalcium aluminate, in combination with calcium chloride produces the compound

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The Composition of Products Resulting From the Hydration of Aluminates in a Solution of $CaCl_2$

$3CaO \cdot Al_2O_3 \cdot nCaCl_2 \cdot qH_2O$, in the hard state the hydrolysis products are absent. This fact simplifies finding of the detailed composition of the complex. For identification purposes the method of radioactive indicators has been applied (Tsement' Nr 3, 1958, p 24), permitting to determine the composition of new compounds. Another method is the X-ray structural analysis. Aluminum hydroxide, resulting from the hydrolysis of aluminates occurring in a highly dispersive state, does not distort the structural image of new compounds. An X-ray generator built by the Giprotsement (State Institute for the Design and Planning of Establishments for Scientific Research in the Cement Industry) was used for this purpose, with a type BSV X-ray tube and an N[illegible] tube was placed horizontally. The characteristics of the tube were: [illegible] 28 kV, current 20 milliamperes. The voltage of the

Card 2/3

The Composition of Products Resulting From the Hydration of Aluminates in a Solution of $CaCl_2$

Incandescence was stabilized by a ferro-resonance stabilizer. The voltage shown on the meter was up to 120 from two BAS-80 type batteries. The sample of the mineral to be examined was mixed with a 10% solution of $CaCl_2$. In order to prevent setting, the mixture was shaken several times. Prior to the X-raying, the suspension was filtered through a glass type Nr 4 filter. The deposited residue was rinsed with ethyl alcohol and dried at [illegible]. Then the roentgenograph was made. The water binding power for all aluminates was 100 %. The authors conclude that calcium aluminates having various bases produce a complex compound of identical composition in $CaCl_2$. There are 4 sets of graphs and 1 Soviet reference.

Card 3/3

S/762/61/000/000/024/027

AUTHORS: Morozov, Ye.I., Glazunov, S.G., Khromov, A.M.

TITLE: The shape casting of titanium alloys.

SOURCE: Titan v promyshlennosti; sbornik statey. Ed. by S. G. Glazunov. Moscow, 1961, 254-265.

TEXT: The paper describes the development of equipment and methods for the making of shaped castings of Ti and its alloys. The immediate objective is to overcome the difficulties occasioned by the chemical activity of molten Ti and its embrittlement upon reaction with O, N, and H and even with ordinary refractory mold materials. Mold materials: Crystalline quartz, electrocorundum, ZrO_2, MgO, BeO, and CaO molds, bound with ethylsilicate and Zr nitrate, were tested; the molds were made by the lost-wax pattern method. The Ti was heated to >2,000°C and fused in an induction furnace with a graphite crucible; the suitability of the mold material was judged by its interaction with the liquid Ti as manifested by its sticking to the mold, the surface smoothness of the casting, and the presence of cavities in it. SiO_2 and fused electrocorundum were found to be the most accessible and least costly materials, but SiO_2 interacted objectionably with the Ti. White electrocorundum performed better, but left some of the casting with surficial pores. The reaction of the metal with the mold was inhibited by a 0.015-0.02-mm graphite or TiC layer applied in the form of a colloidal alcohol suspension poured into the mold, drained, and firmed up by 2-3-hr baking at 850-900° in a neutral-gas atmosphere.

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The shape casting of titanium alloys. S/762/61/000/000/024/029

The degree of metal/mold interaction was determined by measuring the microhard-
-ness on a cross-section of a specimen. The tests indicated that the degree of
surface contamination of the metal depends on the size of the casting, and that on
large specimens two applications of graphite layer to the inner mold surface de-
pressed the surface contamination appreciably, but that a third graphite layer did
not afford any appreciable additional improvement. Hence, application of a single
graphite layer is recommended for parts with a 6-mm cross-sectional dimension,
two layers for larger pieces. Electrode-graphite, steel, and cast-iron molds or
chills were also tested. Graphite molds left the surface smooth and free of pores
and cavities; their shortcoming is their inadequate durability (usually no more than
a single casting). Iron and steel chills also produced high-grade castings. Success-
ful metal-chill casting requires smooth pouring, without splashes. Pouring-gate
systems with graphite inserts may also be employed to avoid the direct impingement
of the liquid-Ti stream onto protruding portions of the mold. The freedom from
casting skin and ceramic adhesions simplifies subsequent operations considerably.
The details of unsuccessful attempts to use dismountable ceramic molds prepared
on wooden patterns are related. Electric-arc vacuum casting furnace. The tech-
nical details of a consumable-electrode furnace built during the latter part of 1958
are described. A cross-section of the furnace and its equipment for casting 10-
to 15-kg Ti parts is shown. A graphite crucible is supported by a water-cooled ring.
Some of the Ti from the first melt remains attached to the bottom and sides of the

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crucible in the first pouring. Upon hardening, this metal does not remelt during subsequent fusions and serves as a lining of sorts that prevents the immediate contact of the metal with the graphite. The electrode is a rod of Ti prepared in a vacuum arc furnace in a water-cooled Cu crystallizer or a forged rod obtained from a large casting. Design details and the mode of operation are explained in detail. The average service life of a graphite crucible is 30 melts. Chemical composition and technological and mechanical properties of cast Ti alloys. 400 melts were cast. 75% contained less than 0.2% C; all those containing more C occurred during the initial trial periods, when the magnetic field created by the passage of the 4-6,000-a current through the support ring deflected the arc toward one side of the crucible and melted a breach into the protective metallic "lining," so that the fresh liquid metal contacted the bared graphite wall. Analytical details before and after smelting are reported. The pourability of the alloys BT (VT) -1, -5, -5-1, and -3-1 was tested by pouring spiral castings in a steel mold with graphite-insert pouring gate and in ceramic molds made by the lost-wax method. 410-460-mm lengths were thus poured at 2,040-2,050°C. Shrinkage, tested on 30-mm diam, 300 mm long, rods, was: linear 1.0-1.2%, volumetric 2.5-3.0%. Tensile strength, elongation, and necking vs. T are shown for the VT 1, -3, -3-1, -5, -7, -8, -9, and -10 Ti alloys. There are 9 figures and 1 (unnumbered) table; no references. The participation of B.M.Funin and N.I.Busarov in the mold work and of V.I.Kolinskiy and L.N.Soldatova in the vacuum-furnace work is acknowledged. ASSOCIATION: None given.

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S/762/61/000/000/029/029

AUTHORS: Morozov, Ye.I., Ronzhin, A.S., Prostov, I.A., Matveyev, V.S., Gurevich, S.M., Didkovskiy, V.P., Yasinskiy, K.K., Usov, V.N.

TITLE: Electroslag smelting of titanium ingots.

SOURCE: Titan v promyshlennosti; sbornik statey. Ed. by S.G.Glazunov. Moscow, 1961, 314-326.

TEXT: The paper describes a method of electroslag smelting of Ti ingots with desirable mechanical properties and with a surface that requires almost no machining prior to plastic working. The principal objective of the development is the smelting of flat ingots for the rolling of sheet material with uniform transverse distribution of rolling deformation (cylindrical ingots are deformed more greatly at the center; tensile stresses produce edge cracking on the resulting sheets). Several organizations collaborated with the Institute of Electric Welding imeni Ye.O.Paton in 1957 in adapting the splashless electroslag method of Ti smelting (3 electrodes) developed in 1958 to the smelting of slab ingots of up to 200x500x700 mm and 500 kg. Good mechanical properties and high electric-power utilization result from the improved current- and heat-flow uniformity of the arc established underneath the protective flux layer. Since 3, as well as one, electrodes can be employed, the 3 phases of an a.c. power supply can be utilized uniformly. The fused flux layer contributes to the formation of a singularly compact ingot structure. Flux must: (1) Not contain O, (2) have a m.p. close to that of the metal and be readily fusible, (3) have a high b.p.

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Electroslag smelting of titanium ingots. S/762/61/000/000/029/029

(not less than 2,000°C). Neutral-gas shielding above the flux is mandatory to avoid O reaction. Details of the experiments with various fluxes, which led to the adoption of CaF_2 (brand " " (Ch)) and a purifying result of the flux in an induction furnace prior to use, are reported and tabulated. Comparison of BT (VT) -1, -3-1, and -5, OT4, and Ti-8Mn ingots obtained by the electroslag (ES) and vacuum arc (VA) methods. Differences between ES and VA ingots initially observed were found to be attributable to the use of pressed electrodes in the ES method; use of once-VA-melted ingots as starting electrodes in both ES and VA methods yielded BT (VT) and OT ingots of practically identical mechanical properties (described and tabulated). The mechanical properties of the Ti-8Mn were considerably improved by the ES method; this is attributed to the more uniform distribution of the high-vapor-pressure Mn in the ingot under the protection of the flux. The BT (VT) and OT alloys showed either increased strength or impaired notch toughness when smelted under a fluorspar flux, probably as a result of uncontrollable admixtures contained in the fluorspar. Furnace: The design of the 3-electrode furnace, with a crystallizer, electrode chamber, flux dispenser, electrode-advance mechanism, protective shield, and power transformer, is described and illustrated (cross-section photos); its operation and process control are described in detail. A 500-kg ingot shows the result of deliberate manual delays in electrode advance in the form of nonuniformities (photo). Design criteria were obtained for future furnace designs. There are 6 figures, 3 tables, and 2 Russian-language Soviet references identified in footnotes.

Card 2/2 ASSOCIATION: None given.

S/081/61/000/019/044/085
B110/B101

AUTHORS: Konovalov, P. ., Morozov, Ye. I.

TITLE: Penetration of calcium and iron in periclase-spinel refractory material

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 302, abstract 19K198 (Nauchn. soobshch. Gos. Vses. n.-i. in-t tsementn. prom-sti, no. 10 (41), 1961, 30 - 33)

TEXT: The diffusion coefficients of Ca^{2+} and Fe^{3+} at 1000 - 1200°C were studied. Basing on the data obtained the authors compiled tables which they used for the construction of curves and the calculation of diffusion parameters. In both cases two types of migration of the material through the substance were distinguished, i. e., surface and volume penetration. At low temperatures the diffusion coefficients and activation energies of the two ions become identical. With rising temperature the difference between the diffusion coefficients and activation energies of different diffusing ions increases. This proves that the chemical properties of the diffusing substances in the case of surface diffusion are of smaller

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Penetration of calcium and iron [illegible]

influence than in the case of high-temperature volume diffusion.
[Abstracter's note: Complete translation]

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KONOVALOV, P.F.; MOROZOV, Ye.I.

Study of the diffusion of some components of cement clinker into the lining of kilns. TSement 27 no.5 16-18 S-O '61. (MIRA 14:12)

(Radioactive tracers)
(Kilns, Rotary)

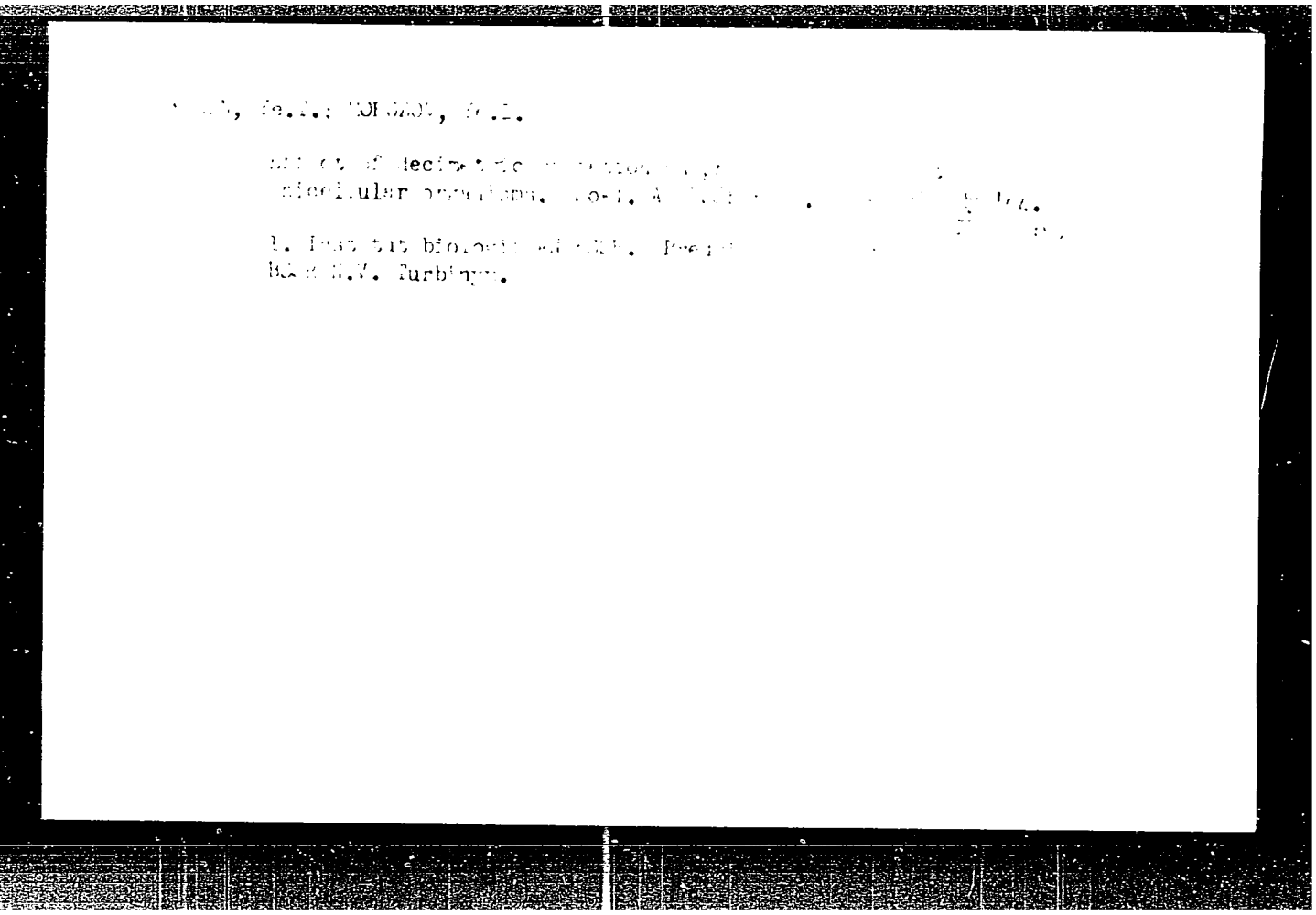
KONOVALOV, P.F.; MOROZOV, Ye.I.

Reaction of aluminates with calcium sulfate and calcium chloride. Zhur.prikl.khim. 34 no.3:675-676 Mr '61. (MIRA 14:5)

1. Leningradskiy institut "Giprotsement."
(Calcium sulfate) (Calcium chloride) (Aluminates)

MOROZOV, Ye.I.

Study of the interrelationship of clinker components and refractories using radioactive tracers. Trudy Giprotsement no.24:103-118 '62. (MIRA 16:4)
(Cement clinkers) (Refractory materials) (Radioactive tracers)



ACC NR: AP6017960 (A) SOURCE CODE: UR/0413/66/000/010/0034/0034

INVENTORS: Morozov, Ye. I.; Musatov, M. I.; Zhiznev, V. S.

ORG: none

TITLE: A method for pouring molten metal from lined vacuum arc furnaces. Class 18, No. 181668

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 34

TOPIC TAGS: metallurgy, metallurgic process, metallurgic furnace, metal industry, arc furnace

ABSTRACT: This Author Certificate presents a method for pouring molten metal from lined vacuum arc furnaces. To obtain a superheated melt, the pouring is done through an intermediate crucible in which the metal is reheated by an auxiliary electric arc.

SUB CODE: 13/ SUBM DATE: 06Jul64

Card 1/1 UDC: 621.745.56

MOROZOV, Ye.I., inzh.

Leaks through slits in mine compressed air [illegible]
Gor. zhur. no.6, 43-46 Je '65. [illegible]

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki

MOROZOV, Ye. M.

"A Study of, and Methods of Increasing the Static Stability of Composite Elements in Construction." Cand Tech Sci, Moscow Engineering Physics Inst, 27 Dec 54. (VM, 16 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

FRIDMAN, Ya. B., doktor tekhn.nauk prof., MOROZOV, Ye. M., kand.tekhn.nauk

Selecting the direction of weld seams in vessels made of vinyl plastic. Khim.mash. no.2:37-38 Mr-Ap '60. (MIRA 13:6)
(Chemical apparatus--Welding) (Plastics--Welding)

FRIDMAN, Ya.B.; SOBOLEV, N.D.; BORISOV, S.V.; YEGOROV, V.I.; KONOPLENKO, V.P.; MOROZOV, Ye.M.; SHAPOVALOV, L.A.; SHORR, B.F.

Heat resistance problems in nuclear engineering. Atom.energ. 10 no.6:606-619 Je '61. (MIRA 14:6)
(Refractory materials)

MOROZOV, Ye.M. (Moskva); POPOV, Yu.A. (Moskva); TAMBOVTSEV, Ye.P. (Moskva)

Relation between strains and deformations in media with various cohesions. Izv.AN SSSR.Otd.tekh.nauk no.2:123-124 F '57. (MLRA 10:5)

(Deformations (Mechanics))